

1 1. (Amended) A method of regenerating a biosensor of the
2 type having a signal generating portion responsive to some
3 property of or to the presence of some component in a biological
4 A1 fluid, and having a flow passage through which fluid is being
5 passed at selectable flow rates, the method comprising:

6 (a) passing a background flow of fluid without
7 response generating components through the flow
8 passage;

9 (b) at a selected point in time introducing a sample
10 aliquot into said background flow; and

11 [characterized by]

12 (c) increasing the flow rate of the background fluid
13 at a point in time when at least a fraction of said
14 sample aliquot has entered said flow passage.

15 3. (Amended) The method of claim 1 [or 2], wherein said
16 A2 flow rate is increased by 5-100%, preferably 10-50%, most
17 preferably 15-30%.

18 4. (Amended) The method of claim 1 [or 2], comprising
19 maintaining the increased flow rate until the signal from the
20 sensor has reached a preselected value.

1 6. (Amended) The method of [any preceding claim] claim 1,
2 *A³* wherein the increased flow rate is maintained for 10-60 s,
3 preferably 20-40 s.

1 7. (Amended) The method of [any preceding claim] claim 1,
2 wherein said background flow is 0.1 - 10 ml/min., preferably
3 1 ml/min.

1 8. (Amended) The method of [any preceding claim] claim 1,
2 wherein said increase in flow rate is initiated when the entire
3 sample has entered said flow passage.

1 9. (Amended) The method of [any preceding claim] claim 1,
2 wherein sample is continuously drawn from a sample source, and
3 when not being analyzed it is disposed as waste.

1 10. (Amended) The method of [any preceding claim] claim 1,
2 wherein the sample is blood, optionally premixed with
3 anticoagulant.

1 *A⁴* 12. (Amended) A system for continuous monitoring of
2 analytes in a biological fluid, the system having increased life

3 by virtue of inherent regeneration of sensors employed, the
4 system comprising:

5 (a) a biosensor [(26, 30, 32)] of the type having a
6 flow passage through which fluid is being passed at
7 selectable flow rates, and a signal generating portion
8 located in said flow passage and responsive to some
9 component or property of a biological fluid;

10 (b) a sampling device [(4)] for providing a sample of
11 said biological fluid;

12 (c) means [(10, 15, 18, 24)] for passing a flow of a
13 background fluid through said flow passage at
14 selectable flow rates;

15 (d) means [(20, 50, 55)] for injecting said sample
16 into said flow of background fluid at selectable
17 points in time to provide a combined flow;

18 (e) means [(50, 55)] for increasing the flow rate of
19 said combined flow at a selectable point in time
20 during passage of the sample through said flow passage
21 in order to achieve a washing action on the signal
22 generating portion; and

23 (f) means [(30, 32)] for providing a signal from said
24 signal generating portion.

1 13. (Amended) The system of claim 12, wherein said
2 sampling device comprises a catheter [(4)] insertable in a blood
3 vessel of a human or an animal, and tubing [(8)] connecting the
4 catheter to the system.

1 14. (Amended) The system of claim 12 [or 13], wherein said
2 means for passing a flow of a background fluid through said flow
3 passage at selectable flow rates comprises a pump [(10)] and
4 appropriate tubing [(18, 24)].

1 15. (Amended) The system of claim 12[, 13 or 14], wherein
2 said means for injecting said sample into said flow of
3 background fluid, comprises a valve [(20)] switchable between
4 injection and waste disposal modes.

1 16. (Amended) The system of [any of claims 12-15]
2 claim 12, wherein said means for increasing the flow rate
3 comprises a control unit [(50)] programmed to respond to signals
4 from said sensor.

1 17. (Amended) The system of [any of claims 12-16]
2 claim 12, wherein said means for providing a signal from said

3 signal generating portion comprises at least one thermistor
4 [(30, 32)].

1 18. (Amended) The system of [any of claims 12-17]
2 claim 12, further comprising a connector [(100)], for connecting
3 said sampling device [(4)] to said pump [(10)], the connector
4 comprising:

5 a male [(102)] and a female [(104)] part,
6 a tube [(108)] of a hard material such as steel having
7 an inner diameter, and being inserted in the center of one of
8 said male [(102)] and female [(104)] parts and protruding from
9 an end surface [(118)] of said part [(104; 102)];

10 a catheter [(106)] of a soft material inserted in the
11 center of the other of said male [(102)] and female [(104)]
12 parts and having an inner diameter substantially smaller than
13 the inner diameter of said tube [(108)], and having an
14 essentially flat end surface [(126)], wherein

15 the protruding end of said tube is ground such as to
16 form a sharp circumferential edge [(112)], and wherein

17 the positions of said tube [(108)] and said catheter
18 [(106)] in their respective male or female part, are such that
19 when said male and female parts are connected, said sharp edge